

REMARKS

Status of the Claims

Claims 1-3, 5-10, 12-17 and 19-21 are pending in this application.

Claims 1-3, 5-10, 12-17 and 19-21 are rejected.

Claims 4, 11 and 18 have been previously cancelled, without prejudice.

Claims 1 and 12 have been amended in the present submission. Support for these amendments can be found throughout the specification, claims, and drawings, as originally filed.

Claims 6, 16, 17 and 19-21 are cancelled without prejudice.

I. Response to the Office Action of January 25, 2008

Objection to Claim 19

Claim 19 was objected to because of informalities. With this amendment, claim 19 is cancelled without prejudice. It is respectfully assumed that the objection to claim 19 is now rendered moot.

Rejection of Claims 1, 2, 5, 7-10, and 12-15 Under 35 USC 102

In paragraph three of the above noted Office Action, claims 1, 2, 5, 7-10, 12-15 have been rejected under 35 USC 102(e) as being anticipated by Hagiwara et al., U.S. Patent Publication 2002/0029136 (hereinafter Hagiwara). Hagiwara, in essence, provides a simulator for an automatic transmission controller. The results of Hagiwara simulation are utilized in the development stages of the transmission. The simulation conducted by Hagiwara is mainly a virtual simulation although some actual data is utilized. The Hagiwara simulation is conducted to find a preferred shift control algorithm

for a transmission having a generally fixed design. Secondly, Hagiwara's simulator performs a simulation which monitors a shift control algorithm in relationship to wear that occurs to a friction lining of a clutch utilized within the transmission. Applicant's invention provides a product production method of calibrating a proportional solenoid in an electrohydraulic control system, especially electrohydraulic control system utilized in automatic transmissions. Unlike Hagiwara, the shift control algorithm in the environment of Applicant's invention is typically already fixed. Applicant's invention is mainly concerned with how to calibrate unique proportional solenoids that are provided within a predesigned mass manufactured electrohydraulic system of a production automatic transmission.

Applicant's claim 1 provides a method of calibrating a unique proportional solenoid of a unique member of a predesigned class of electrohydraulic control systems. The electrohydraulic control system additionally has at least one proportional solenoid that provides an output response in response to an input current. Applicant's invention requires that the unique electrohydraulic system be connected to a test stand. Applicant's system also requires that the output response of the unique proportional solenoid of the electrohydraulic system be measured for a plurality of currents. Additionally, the unique coefficients and the characteristic equation from the output response measurements must be identified. Lastly, the unique coefficients for the unique proportional solenoid must be flashed into a control unit memory.

Referring to the Examiner's Response in paragraph three, the Examiner refers to paragraph [0131] of Hagiwara. It is notable that Hagiwara concerned with variables such as engine torque, speed, clutch friction characteristics and frictional coefficients. In reference of Figure 24 of Hagiwara, it is noted that these characteristics are made from analysis that are estimates as noted in the second block of the diagram of Figure

24. No where is there a mention or an explanation of determining unique characteristics of a proportional solenoid as required by Applicant's independent claims 1 and 12. In Hagiwara paragraph [0062], the characteristics of the vehicle which checked are crank angle, engine speed, manifold absolute pressure, throttle open and shift lever position. None of these variables directly relate to the characteristics of the proportional solenoid, but are instead mainly dependent upon the frictional characteristic of the friction lining and also characteristic of the shift control algorithm. There is nothing in Hagiwara that indicates a change of coefficients which would be required by replacement of another unique proportional solenoid to the electrohydraulic system as required in Applicant's invention. Instead, Hagiwara would modify the shift control algorithm.

Rejection of Claims 3 and 14 Under 35 USC 103

Claims 3 and 14 have been rejected to under 35 USC 103(a) as being unpatentable over Hagiwara in view of Ishii et al., U.S. Patent 6,679,800 (hereinafter Ishii 800). Applicant respectfully submits that the addition of Ishii 800 to Hagiwara still fails to provide a method to calibrate unique proportional solenoids of an electrohydraulic system as provided in Applicant's invention. Accordingly, the proposed combination fails to provide all of the elements of Applicant's invention and therefore the claim rejection under 35 USC 103 should be withdrawn.

II. Response to the Office Action of January 31, 2008

Declaration of Prior Invention to Overcome Cited Patent Under 37 CFR

1.131

Applicant respectfully submits that Ishii et al. U.S. Patent 6,751,542 is an improperly cited reference against Applicant's invention. Ishii et al. has a U.S. filing

date of March 28, 2003. To demonstrate that Ishii et al. is an improperly cited reference, Applicant submits a supplemental affidavit to overcome Ishii et al. and which illustrate facts showing a completion of the invention in this country before the filing date of Ishii et al. which established conception of the invention as well as reduction to practice prior to the effective date of Ishii et al. (specifically on or after November 4, 2002) and which demonstrate diligent pursuit of the invention until a continuous reduction to practice as evidenced by subsequent filing of a provisional application on April 11, 2003 and a further filing of a non-provisional application claiming the benefit of the provisional application filed on February 27, 2004.

Accordingly, Applicant respectfully submits that Ishii et al. no longer proper as a reference to be cited against Applicant's application.

Establishing a prima facie case of obviousness requires the proposed combination of references teach or render obvious all the elements of the rejected claims. All of the 35 USC §103 rejections of Applicant's claims rely partially upon the reference Ishii et al. Accordingly, with the removal of Ishii et al. none of the 35 USC §103 rejections of Applicant's invention are continually effective and as such, all such rejections are respectfully traversed.

Rejection of Claims 1-4, 6-15 Under 35 USC §103 (a)

Claims 1-4, 6-15 are rejected under 35 USC §103(a) as being unpatentable over Kurihara U.S. Patent 6,449,547 in view of Ishii et al. U.S. Patent 6,751,542 and further in view of Yutkowitz U.S. Patent 6,865,499. As previously stated, Applicant respectfully submits that Ishii et al. is an improperly cited reference against Applicant's invention due to the facts revealed in Applicant's 37 CFR 1.131 Declaration. However, even if Ishii et al. were properly cited the proposed combination would fail to teach or make obvious

Applicant's invention. On page 2 of the above noted Office Action, the Examiner has stated in regards to claim 1, "As to claim 1, Kurihara/547 shows method of calibrating an electrohydraulic control system that provides an output response in response to an input current". Applicant respectfully submits that this characterization of Kurihara/547 is not accurate. Kurihara/547 is best shown in Figure 4 provides an accelerator pedal which has an angle sensor which is noted as item 2. Based upon the angle of a pedal, an electrical signal is provided to an electrically operated throttle valve noted as item 7. The signal from the accelerator pedal provides an angle reading which is further interpreted based upon the vehicle speed which determines a required horse power value which is noted in the box 13. The required horse power value is then utilized to control an electrically operated throttle valve noted as item 7. The coefficients which are utilized to generate the graphs shown in Figure 2 and Figure 3 are based upon the electrically operated throttle valve 7 being in a full (open) throttle position as a constant. The values of output are determined by horse power demand and vehicle speed. The coefficients determined are for control of a variable displacement engine and not a hydraulic valve as in Applicant's invention. Accordingly Kurihara/547 does not disclose a method of calibrating an electro-hydraulic control system.

The proposed combination by the Examiner takes a control system for an internal combustion engine and tries to utilize such teaching to provide a control system for an electro-hydraulic system of Ishii et al. The teaching of such a proposed combination is in conflict with the purpose of its members.

Recent case law specifies that in order for a proposed combination of references to render the claims of an application obvious, the proposed references must be in the

same field of endeavor as applicant's invention. KSR International CEOV Teleflex, Inc. et al., 2007 WL 1237837, 17 (US 2007), 82 USPQ second 1385. Specifically, in that case, the court states, "The proper question to have asked is whether a pedal designer of ordinary skill, facing a wide range of needs created by developments in the field of endeavor, would have seen a benefit to upgrading the [pedal of] Asano with a sensor of [Smith]." ID [emphasis added]. There is nothing in either Kurihara et al. or Ishii et al. that would lead on skilled in the art to combine the teachings of control of an electrically operated throttle valve with that of control of a solenoid utilized with an electro-hydraulic system.

Rejections of Claims 5, 16-21 Under 35 USC §103

The rejections of all of the above noted claims are either totally or partially dependent upon the combination of Kurihara/547 and Ishii/542. For the reasons previously stated, in regards to the rejections of claims 1-4 and claims 6-15, Applicant respectfully submits that the rejection of the remaining claims are all dependent at least partially or totally upon the aforementioned Kurihara/547 or Ishii et al. and therefore such rejections remain improper for the reasons formerly stated. The previous argument is not repeated in the interest of brevity conservation of Examiner's valuable time.

CONCLUSION

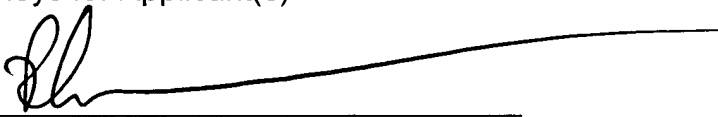
It is respectfully submitted that in view of the above amendments and remarks the claims 1-3, 5, 7-10 and 12-15, as presented, are patentably distinguishable because the cited patents, whether taken alone or in combination, do not teach, suggest or render obvious, the present invention. Therefore, Applicant submits that the pending claims are properly allowable, which allowance is respectfully requested.

The Examiner is invited to telephone the Applicant's undersigned attorney at (248) 364-4300 if any unresolved matters remain.

Respectfully submitted,

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